40CFR63 SUBPART UUU: SULFUR RECOVERY UNIT OPERATION, MAINTENANCE & MONITORING PLAN

SUMMARY: Evaluation of Operation, Maintenance & Monitoring Plan (OMMP) for Sulfur Recovery Unit (SRU) subject to 40CFR63 Subpart UUU. The OMMP was submitted, as required by §63.1568(b)(6) & §63.1569(b)(3), to describe compliance options, emission limits, monitoring equipment, procedures, equipment maintenance and quality control plans as detailed in §63.1574(f) for Sulfur Recovery Unit No. 1 (Process 7, System 1); Sulfur Recovery Unit No. 2 (Process 7, System 2); Tail Gas (SCOT) Unit No. 1, Reduction Control (Process 7, System 5); Tail Gas (SCOT) Unit No. 2, Reduction Control (Process 7, System 4); and SCOT Tail Gas Incinerator (Process 7, System 3).

COMPANY INFORMATION

Company Name: Phillips 66 Company, Los Angeles Refinery, Carson Plt, Facility ID No. 171109
Mailing Address: 1520 E. Sepulveda Blvd, Carson, CA 90745
Equipment Location: 1520 E. Sepulveda Blvd, Carson, CA 90745
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COMPLIANCE RECORD REVIEW

A query of the AQMD Compliance Database for the past two years (10/1/10 to 10/18/12) identified 2 Notice of Violations (NOVs) that were issued to the Phillips 66 Los Angeles Refinery Carson Plant (Facility ID 171109) and 2 Notice of Violations (NOVs) that were issued to the previous owner, ConocoPhillips Los Angeles Refinery Carson Plant (Facility ID 800362). The compliance database indicates that the facility is currently in compliance with applicable rules and regulations.

FEE EVALUATION

The BCAT for 40CFR63 Subpart UUU OMMP plans for SRUs is 666616 [40CFR63UUU/SRU], Schedule C. Fees of $535.75 were paid when the application was submitted. Additional fees for T&M of $296.90 are due for the additional 2 hours of evaluation required for this plan.

BACKGROUND for 40 CFR PART 63, SUBPART UUU: National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units (Adopted 04/11/2002, Amended 02/09/2005)

On April 11, 2002, the EPA issued the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Catalytic Cracking Units (CCU), Catalytic Reforming Units (CRU), and Sulfur Recovery Units (SRU) at petroleum refineries. This regulation requires all petroleum refineries that are major sources to meet standards reflecting the application of the Maximum Achievable Control Technology (MACT) for Hazardous Air Pollutants (HAP). This regulation is commonly referred to as "Refinery MACT II" (note that "MACT I" generally refers to 40CFR63 Subpart CC, which also affects petroleum refineries, but was adopted prior to Subpart UUU).

Use of surrogates The HAP that are reduced by this rule include organics (acetaldehyde, benzene, formaldehyde, hexane, phenol, toluene, and xylene); reduced sulfur compounds (carbonyl sulfide, carbon

disulfide); inorganics (hydrogen chloride, chlorine); and particulate metals (antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, manganese, and nickel). The requirements of this regulation focus on surrogate pollutants (such as PM, opacity and CO) to represent relative HAP emissions, rather than direct measurements of the HAP. The EPA stated in their response to rulemaking comments[1] that

> "the determination of MACT floors for CCU organic HAP and metallic HAP were based on the control technologies used in the industry, complete combustion of vent gases for control of organic HAP and an ESP or Venturi scrubber for control of metallic HAP. Surrogates were used in the standards only to characterize the performance of these best performing technologies. We have used surrogates for listed HAP in several rules because this simplifies compliance demonstrations by allowing the use of well-known methods, i.e., methods used to comply with the other CAA standards such as NSPS, and reduces costs associated with constituent analyses[2]."

Relation to NSPS J The primary compliance method allowed by this rule (although there are other options) is compliance with the 40CFR60 Subpart J New Source Performance Standards (NSPS) for Petroleum Refineries. Many, but not all affected facilities located in the SCAQMD, were already subject to Subpart J requirements. Although the NSPS is concerned with emissions of criteria pollutants, and the NESHAP is concerned with HAP emissions, analysis has indicated that for the Subpart UUU affected sources, emissions of both types of pollutants are controlled by the same means, as detailed below in the response by the EPA to a rulemaking question about the metallic HAP emission limits for CCUs.

> "The EPA believes that the NSPS levels selected to characterize the MACT floor performance adequately account for the variability inherent in the processes themselves and the air pollution control technologies, and indicates what levels are consistently achievable in practice. …the MACT floor for new sources is the same as that for existing sources of metallic HAP. No technology has been demonstrated in this industry to provide a level of control more stringent than the MACT floor for metallic HAP[3]."

Note that one of the compliance options for facilities that are not subject to NSPS J is to voluntarily comply with NSPS J limits and monitoring requirements. Other compliance options focus on different emission performance parameters.

Operation, Maintenance and Monitoring Plan Requirements The requirement to submit a OMMP plan for approval is referenced in Subpart UUU sections covering each source type (CCU, CRU and SRU) and HAP emission category (metal HAP, organic HAP, inorganic HAP and HAP).

The requirement to prepare an OMMP and "operate at all times according to the procedures in the plan" is listed as a work practice standard for CCUs, CRU's SRU, and bypass lines [§63.1564(a)(3); §63.1565(a)(3); §63.1566(a)(5); §63.1567(a)(3); §63.1568(a)(3); §63.1569(a)(3)].

Submittal of the OMMP is also required as part of the demonstration of initial compliance with the work practice standards for each source type [§63.1564(b)(6); §63.1565(b)(5); §63.1566(b)(7); §63.1567(b)(6); §63.1568(b)(6); §63.1569(b)(3)]. The referenced sections also note that the OMMP should be submitted as part of the Notification of Compliance Status.

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[1] Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units – Background Information for Promulgated Standards and Response to Comments: Final Report, U.S. EPA Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711, EPA-453/R-01-011, June 2001.

[2] EPA-453/R-01-011, June 2001, Comment 1.2

[3] EPA-453/R-001-011, June 2001, Comment 1.3

Demonstration of continuous compliance with the requirements of this regulation is accomplished partly by complying with and/or maintaining records to document conformance with "the procedures in your operation, maintenance and monitoring plan". [§63.1564(c)(2); §63.1565(c)(2); §63.1566(c)(2); §63.1567(c)(2); §63.1568(c)(2); §63.1569(c)(2)].

The information required to be in each OMMP is specified in §63.1574(f)(2)(i) through § 63.1574(f)(2)(vii), provided below in **Table P1**. Note that some requirements are specific to the source type (noted in *italics for CRU only* or underline for CCU only) or required only for specific equipment configurations or compliance options. The objective of this evaluation is to assess whether the facility has provided the information required in **Table P1**.

Table P1. Information Required in 40CFR63 Subpart UUU Operation, Maintenance and Monitoring Plans for CCUs, CRUs, and SRUs.

§ 63.1574(f)(2): Each plan must include, at a minimum, the information specified in paragraphs (f)(2)(i) through (xii) of this section.	**Applic-ability**
(i) Process and control device parameters to be monitored for each affected source, along with established operating limits.	**All**
(ii) Procedures for monitoring emissions and process and control device operating parameters for each affected source.	**All**
(iii) Procedures that you will use to determine the coke burn-rate, the volumetric flow rate (if you use process data rather than direct measurement), and the rate of combustion of liquid or solid fossil fuels if you use an incinerator-waste heat boiler to burn the exhaust gases from a catalyst regenerator.	CCU only
(iv) Procedures and analytical methods you will use to determine the equilibrium catalyst Ni concentration, the equilibrium catalyst Ni concentration monthly rolling average, and the hourly or hourly average Ni operating value.	CCU only
(v) Procedures you will use to determine the pH of the water (or scrubbing liquid) exiting a wet scrubber if you use pH strips.	*CRU only*
(vi) Procedures you will use to determine the HCl concentration of gases from a catalytic reforming unit when you use a colormetric tube sampling system, including procedures for correcting for pressure (if applicable to the sampling equipment) and the sampling locations that will be used for compliance monitoring purposes.	*CRU only*
(vii) Procedures you will use to determine the gas flow rate for a catalytic cracking unit if you use the alternative procedure based on air flow rate and temperature.	CCU only
(viii) Monitoring schedule, including when you will monitor and when you will not monitor an affected source (e.g., during the coke burn-off, regeneration process).	**all**
(ix) Quality control plan for each continuous opacity monitoring system and continuous emission monitoring system you use to meet an emission limit in this subpart. This plan must include procedures you will use for calibrations, accuracy audits, and adjustments to the system needed to meet applicable requirements for the system.	**all**
(x) Maintenance schedule for each monitoring system and control device for each affected source that is generally consistent with the manufacturer's instructions for routine and long-term maintenance.	**all**

(xi) If you use a fixed-bed gas-solid adsorption system to control emissions from a catalytic reforming unit, you must implement corrective action procedures if the HCl concentration measured at the selected compliance monitoring sampling location within the bed exceeds the operating limit. These procedures must require, at minimum, repeat measurement and recording of the HCl concentration in the adsorption system exhaust gases and at the selected compliance monitoring sampling location within the bed. *If the HCl concentration at the selected compliance monitoring location within the bed is above the operating limit during the repeat measurement while the HCl concentration in the adsorption system exhaust gases remains below the operating limit, the adsorption bed must be replaced as soon as practicable.* *Your procedures must specify the sampling frequency that will be used to monitor the HCl concentration in the adsorption system exhaust gases subsequent to the repeat measurement and prior to replacement of the sorbent material (but not less frequent than once every 4 hours during coke burn-off).* *If the HCl concentration of the adsorption system exhaust gases is above the operating limit when measured at any time, the adsorption bed must be replaced within 24 hours or before the next regeneration cycle, whichever is longer.*	*CRU only*
(xii) Procedures that will be used for purging the catalyst if you do not use a control device to comply with the organic HAP emission limits for catalytic reforming units. These procedures will include, but are not limited to, specification of the minimum catalyst temperature and the minimum cumulative volume of gas per mass of catalyst used for purging prior to uncontrolled releases (i.e., during controlled purging events); the maximum purge gas temperature for uncontrolled purge events; and specification of the monitoring systems that will be used to monitor and record data during each purge event.	*CRU only*

PLAN EVALUATION

Conoco Phillips (the previous owner) submitted a Subpart UUU Notification of Compliance Status Report to the SCAQMD on May 11, 2005 for the ConocoPhillips-Carson Sulfur Recovery Unit (SRU). This submittal also included the OMMP for the SRU. The OMMP was submitted with a plan application (A/N 448934) on September 19, 2005, but the application was cancelled due to the change of operator to Phillips 66. Phillips 66 submitted an application for the Subpart UUU OMMP for the SRU on June 12, 2012, referencing the information submitted September 19, 2005.

The Phillips 66 Carson Refinery Sulfur Recovery Unit includes the following: Sulfur Recovery Unit No. 1 (Process 7, System 1); Sulfur Recovery Unit No. 2 (Process 7, System 2); Tail Gas (SCOT) Unit No. 1, Reduction Control (Process 7, System 5); Tail Gas (SCOT) Unit No. 2, Reduction Control (Process 7, System 4); and SCOT Tail Gas Incinerator (Process 7, System 3).

For SRUs, the facility has requirements for HAP Emissions. The compliance options for Subpart UUU requirements are provided in Subpart UUU tables for each equipment type and emission type. For Sulfur Recovery Units (SRU), Subpart UUU includes tables that describe the requirements to comply with emission limits (Table 29), operating limits (Table 30), continuous monitoring systems (Table 31), continuous compliance with HAP emission limits (Table 34), and continuous compliance with operating limits for HAP emissions (Table 35). *(Note that these table numbers are the tables numbered according to Subpart UUU. Other tables in this document are numbered separately and distinguished with a "P"# in the table title.)*

The regulation also includes tables describing requirements for performance testing (Table 32) and demonstrating initial compliance with the emission limits (Table 33), but these requirements are part of

the Notification of Compliance Status, and not the OMMP, which is more concerned with ongoing operation of the affected equipment and how it will be maintained.

Requirements for bypass lines are also described in Subpart UUU. The work practice standards for HAP emissions from bypass lines are listed in Table 36, while the requirements for continuous compliance with work practice standards are listed in Table 39. The requirements for performance tests (Table 37) and initial compliance with work practice standards (Table 38) for bypass lines are also described, but these are associated with the initial Notification of Compliance Status, and not the OMMP.

Excerpts of the Subpart UUU tables (with the same numbers as in Subpart UUU) are provided below, showing the compliance options selected by the facility. The Phillips 66 Carson SRUs are subject to NSPS J requirements. The compliance options for facilities subject to NSPS J are shown in the tables below.

Note that the following tables are excerpts from the Subpart UUU tables and do not show all other compliance options, because they were not selected by the facility.

COMPLIANCE OPTIONS/REQUIREMENTS FOR HAP EMISSIONS FROM SRUs

The HAP emission limits for SRUs are listed in Table 29. For facilities subject to the NSPS requirements for sulfur oxides, the emission limits are the same as the NSPS emission limits. For SRUs with an incinerator, the limit is 250 ppm SO_2 (dry basis, 0% excess air). For SRUs without an incinerator, the limit is 300 ppmv of reduced sulfur compounds (calculated as ppmv SO_2, dry basis at 0% excess air). Table 30 shows that for facilities subject to the NSPS for sulfur oxides, there are no applicable operating limits. Table 31 shows that SRUs can meet the requirements for continuous monitoring systems for HAP Emissions with a continuous emission monitoring system (CEMS) for either SO_2 or reduced sulfur compounds (depending on the system configuration/use of an incinerator).

Table 29 to Subpart UUU of Part 63—HAP Emission Limits for Sulfur Recovery Units

As stated in §63.1568(a)(1), you shall meet each emission limitation in the following table that applies to you.

For . . .	You shall meet this emission limit for each process vent . . .
1. Each new or existing Claus sulfur recovery unit part of a sulfur recovery plant of 20 long tons per day or more and subject to the NSPS for sulfur oxides in 40 CFR 60.104(a)(2).	a. 250 ppmv (dry basis) of sulfur dioxide (SO_2) at zero percent excess air if you use an oxidation or reduction control system followed by incineration.
	b. 300 ppmv of reduced sulfur compounds calculated as ppmv SO_2 (dry basis) at zero percent excess air if you use a reduction control system without incineration.

Table 30 to Subpart UUU of Part 63—Operating Limits for HAP Emissions From Sulfur Recovery Units

As stated in §63.1568(a)(2), you shall meet each operating limit in the following table that applies to you.

For . . .	If use this type of control device	You shall meet this operating limit. . .
1. Each new or existing Claus sulfur recovery unit part of a sulfur recovery plant of 20 long tons per day or more and subject to the NSPS for sulfur oxides in 40 CFR 60.104(a)(2).	Not applicable	Not applicable.

Table 31 to Subpart UUU of Part 63—Continuous Monitoring Systems for HAP Emissions From Sulfur Recovery Units

As stated in §63.1568(b)(1), you shall meet each requirement in the following table that applies to you.

For . . .	For this limit . . .	You shall install and operate this continuous monitoring system . . .
1. Each new or existing Claus sulfur recovery unit part of a sulfur recovery plant of 20 long tons per day or more and subject to the NSPS for sulfur oxides in 40 CFR 60.104(a)(2)	a. 250 ppmv (dry basis) of SO_2 at zero percent excess air if you use an oxidation or reduction control system followed by incineration	Continuous emission monitoring system to measure and record the hourly average concentration of SO_2 (dry basis) at zero percent excess air for each exhaust stack. This system must include an oxygen monitor for correcting the data for excess air.
	b. 300 ppmv of reduced sulfur compounds calculated as ppmv SO_2 (dry basis) at zero percent excess air if you use a reduction control system without incineration	Continuous emission monitoring system to measure and record the hourly average concentration of reduced sulfur and oxygen (O_2) emissions. Calculate the reduced sulfur emissions as SO_2 (dry basis) at zero percent excess air. *Exception:* You can use an instrument having an air or SO_2 dilution and oxidation system to convert the reduced sulfur to SO_2 for continuously monitoring and recording the concentration (dry basis) at zero percent excess air of the resultant SO_2 instead of the reduced sulfur monitor. The monitor must include an oxygen monitor for correcting the data for excess oxygen.

Continuous compliance with HAP emission limits is demonstrated as described in Table 34. For SRUs with incinerators (1)(a): collecting hourly average SO_2 monitoring data, and recording 12-hour rolling average SO_2 monitoring data; maintaining each 12-hour rolling average at or below the applicable 250 ppmv SO_2 limit. For SRUs without incineration (1)(b): collecting hourly average reduced sulfur monitoring data, and recording 12-hour rolling average reduced sulfur monitoring data; maintaining each 12-hour rolling average at or below the applicable 300 ppmv reduced sulfur compounds emission limit. Table 35 shows that since there are no operating limits (per Table 30), continuous compliance is demonstrated solely by the criteria in Table 34.

Table 34 to Subpart UUU of Part 63—Continuous Compliance With HAP Emission Limits for Sulfur Recovery Units

As stated in §63.1568(c)(1), you shall meet each requirement in the following table that applies to you.

For . . .	For this emission limit . . .	You shall demonstrate continuous compliance by . . .
1. Each new or existing Claus sulfur recovery unit part of a sulfur recovery plant of 20 long tons per day or more and subject to the NSPS for sulfur oxides in 40 CFR 60.104(a)(2).	a. 250 ppmv (dry basis) of SO_2 at zero percent excess air if you use an oxidation or reduction control system followed by incineration.	Collecting the hourly average SO_2 monitoring data (dry basis, percent excess air) according to §63.1572; determining and recording each 12-hour rolling average concentration of SO_2; maintaining each 12-hour rolling average concentration of SO_2 at or below the applicable emission limitation; and reporting any 12-hour rolling average concentration of SO_2 greater than the applicable emission limitation in the compliance report required by §63.1575.
	b. 300 ppmv of reduced sulfur compounds calculated as ppmv SO_2 (dry basis) at zero percent excess air if you use a reduction control system without incineration.	Collecting the hourly average reduced sulfur (and air or O_2 dilution and oxidation) monitoring data according to §63.1572; determining and recording each 12-hour rolling average concentration of reduced sulfur; maintaining each 12-hour rolling average concentration of reduced sulfur at or below the applicable emission limitation; and reporting any 12-hour rolling average concentration of reduced sulfur greater than the applicable emission limitation in the compliance report required by §63.1575.

Table 35 to Subpart UUU of Part 63—Continuous Compliance With Operating Limits for HAP Emissions From Sulfur Recovery Units

As stated in §63.1568(c)(1), you shall meet each requirement in the following table that applies to you.

For . . .	For this operating limit . . .	You shall demonstrate continuous compliance by . . .
1. Each new or existing Claus sulfur recovery unit part of a sulfur recovery plant of 20 long tons per day or more and subject to the NSPS for sulfur oxides in paragraph 40 CFR 60.104(a)(2).	Not applicable	Meeting the requirements of Table 34 of this subpart.

The work practice standards for HAP Emissions from bypass lines are listed in Table 36. Table 36 lists four different compliance options. Continuous compliance with work practice standards for HAP emission from bypass lines is demonstrated as described in Table 39, which includes the requirement to record and report the time and duration of any bypass (applicable to all compliance options).

Table 36 to Subpart UUU of Part 63—Work Practice Standards for HAP Emissions From Bypass Lines

As stated in §63.1569(a)(1), you shall meet each work practice standard in the following table that applies to you.

Option	You shall meet one of these equipment standards . . .
1. Option 1	Install and operate a device (including a flow indicator, level recorder, or electronic valve position monitor) to demonstrate, either continuously or at least every hour, whether flow is present in the by bypass line. Install the device at or as near as practical to the entrance to any bypass line that could divert the vent stream away from the control device to the atmosphere.
2. Option 2	Install a car-seal or lock-and-key device placed on the mechanism by which the bypass device flow position is controlled (e.g., valve handle, damper level) when the bypass device is in the closed position such that the bypass line valve cannot be opened without breaking the seal or removing the device.
3. Option 3	Seal the bypass line by installing a solid blind between piping flanges.
4. Option 4	Vent the bypass line to a control device that meets the appropriate requirements in this subpart.

Table 39 to Subpart UUU of Part 63—Continuous Compliance With Work Practice Standards for HAP Emissions From Bypass Lines

As stated in §63.1569(c)(1), you shall meet each requirement in the following table that applies to you.

If you elect this standard . . .	You shall demonstrate continuous compliance by . . .
1. Option 1: Flow indicator, level recorder, or electronic valve position monitor.	Monitoring and recording on a continuous basis or at least every hour whether flow is present in the bypass line; visually inspecting the device at least once every hour if the device is not equipped with a recording system that provides a continuous record; and recording whether the device is operating properly and whether flow is present in the bypass line.
2. Option 2: Car-seal or lock-and-key device	Visually inspecting the seal or closure mechanism at least once every month; and recording whether the bypass line valve is maintained in the closed position and whether flow is present in the line.
3. Option 3: Solid blind flange	Visually inspecting the blind at least once a month; and recording whether the blind is maintained in the correct position such that the vent stream cannot be diverted through the bypass line.
4. Option 4: Vent to control device	Monitoring the control device according to appropriate subpart requirements.
5. Option 1, 2, 3, or 4	Recording and reporting the time and duration of any bypass.

COMPARISON OF OMMP PLAN SUBMITTAL TO REQUIREMENTS

The OMMP plan submitted by the facility was compared against the OMMP requirements for the compliance options selected. A summary of the plan checklist is provided below in **Table P2**. For each applicable plan requirement, compliance with the plan requirement is assessed via a checkmark in the "yes" or "no" column, and remarks are provided with details from the facility's plan.

The Phillips 66 Carson SRUs normally operate using a tail gas treatment system followed by incineration, and are thus subject to the 250 ppmv SO_2 limit at the thermal oxdizer stack. The SRU has six bypass lines; two at the sour water strippers, and four at the SRUs.

The sour water stripper bypass lines allow sour water stripper offgas to bypass the SRUs and vent directly to the flare. Car-sealed valves were installed on these bypass lines. These valves are only opened to prevent system overpressure during process upsets or during unit shutdowns.

In the SRUs, two bypass lines allow Claus reactor effluent to bypass the SCOT tail gas treatment units and vent directly to either the thermal or catalytic incinerator. The other two SRU bypass lines allow DEA regenerator offgas to bypass the SRUs and vent directly to the flare. These bypass lines are equipped with strip chart devices to continuously record the controller output to the bypass valves, which is used to indicate flow in the bypass line.

Table P2. Checklist for Subpart UUU Compliance Plan

Subpart UUU OMMP Requirement* [§ 63.1574(f)(2)]	Compliance?		Remarks
	Yes	No	
(i) Process and control device parameters to be monitored for each affected source, along with established operating limits.	√		Monitoring SO_2 with CEMS (also monitoring O_2) at the incinerator stacks; maintaining 12-hour rolling average < 250 ppmv SO_2 (dry basis, 0% excess air) Visually monitoring the car-seal mechanism monthly to ensure that they are maintained in the closed position for the two bypass lines at the sour water stripper that bypass the SRU and vent directly to the flare; Visually monitoring the car-seal mechanisms monthly to ensure that they are maintained in the closed position for the two bypass lines at the Claus reactor that bypass the SCOT tail gas treatment units (TGTUs) and vent directly to either the thermal or catalytic incinerator. Monitoring the flow indicator on the two bypass at the DEA regenerator that bypass the SRUs and vent directly to the flare.

Subpart UUU OMMP Requirement*	Compliance?		Remarks
(ii) Procedures for monitoring emissions and process and control device operating parameters for each affected source.	√		SO_2 monitored every 15 min, with hourly averages, and 12-hour rolling average (based on 12 hourly averages) determined. 12-hour rolling averages recorded for compliance. Monthly visual monitoring of car-seals on the two sour water stripper lines that bypass the SRUs. Recording and reporting the time and duration of any bypass. Monthly visual monitoring of car-seals on the two Claus reactor lines that bypass the SCOT TGTU. Recording and reporting the time and duration of any bypass. Continuous monitoring of the flow indicators on the two DEA regenerator lines that bypass the SRUs. Recording and reporting the time and duration of any bypass.
(viii) Monitoring schedule, including when you will monitor and when you will not monitor an affected source (e.g., during the coke burn-off, regeneration process).	√		Monitoring conducted continuously when the SRU is in operation. SO_2 CEMs monitoring incinerator stacks continuously when the SRU is in operation. Monthly visual monitoring of the car-seals on the two sour water stripper lines that bypass the SRU. Monitoring whether devices are operating properly and whether flow is present in the bypass lines. Monthly visual monitoring of the car-seals on the two Claus reactor lines that bypass the SCOT TGTU. Monitoring whether devices are operating properly and whether flow is present in the bypass lines. Continuous monitoring of the flow indicators on the two DEA regenerator lines that bypass the SRU. Monitoring whether devices are operating properly and whether flow is present in the bypass lines.
(ix) Quality control plan for each continuous opacity monitoring system and continuous emission monitoring system you use to meet an emission limit in this subpart. This plan must include procedures you will use for calibrations, accuracy audits, and adjustments to the system needed to meet applicable requirements for the system.	√		SO_2 CEMS: QA/QC per Performance Specification 2 (40CFR60 Appendix B), Procedure 1 (40CFR60 Appendix F), with RATA annually instead of quarterly
(x) Maintenance schedule for each monitoring system and control device for each affected source that is generally consistent with the manufacturer's instructions for routine and long-term maintenance.	√		SO_2 CEMS: Routine preventive maintenance each weekday, and per manufacturer recommendations SRU: per manufacturer specifications, turnarounds every 4-6 years

*Note that requirements (iii), (iv) and (vii) apply only to CCU plans; requirement (iv) applies only to facilities using the equilibrium catalyst Ni concentration compliance option for CCUs; and requirement (vii) applies only if an alternative procedure for gas flow rate based on air flow rate and temperature is used.
Requirements (v), (vi), (xi), and (xii) apply only to CRU plans; requirement (v) applies only if pH strips are being used; requirement (xi) applies only if a fixed-bed gas-solid adsorption system is used; and requirement (xii) applies only if no control device (such as a flare) is used.

Table P2 indicates that the facility has submitted all of the necessary information for the OMMP, and is in compliance with the plan requirements.

RECOMMENDATIONS

The 40CFR63 Subpart UUU Operation, Maintenance and Monitoring Plan for SRU submitted by Phillips 66 Carson has been evaluated and found to comply with the applicable requirements specified in the regulation, as summarized below in **Table P3**.

Table P3. Summary of 40CFR63 Subpart UUU
Operation, Maintenance and Monitoring Plan for Sulfur Recovery Unit

	Requirements for Emissions of HAP
Compliance option	Subject to NSPS
Parameters to be monitored	SO_2 concentration using CEMS at SRU incinerator stacks
Emission limits	$SO_2 \leq 250$ ppmv (dry basis, 0% excess air) at SRU incinerator stacks
Operating Parameter Limit	Not applicable
Monitoring Procedure (Emissions)	Collect the hourly average SO_2 monitoring data at SRU incinerator stacks according to §63.1572; calculate and record the 12-hour rolling average SO_2 concentration, and maintain the 12-hour average SO_2 concentration at or below 250 ppmv (dry basis, 0% excess air)
Monitoring Schedule	Continuously when SRU is in operation
QA/QC	Per Performance Specification 2 for SO_2 CEMS [40CFR60 Appendix B] and Quality Assurance Procedure 1 [40CFR60 Appendix F] with RATA annually instead of quarterly
Maintenance Schedule	Routine preventive maintenance each weekday, and per manufacturer recommendations
Bypass lines	Conduct monthly visual monitoring of the car-seals on the two sour water stripper lines that bypass the SRU and vent directly to the flare. Record whether the bypass line valves are maintained in the closed position and whether flow is present in the lines. Record and report the time and duration of any bypass. Conduct monthly visual monitoring of the car-seals on the two Claus reactor lines that bypass the SCOT TGTU and vent directly to either the catalytic or thermal incinerator. Record whether the bypass line valves are maintained in the closed position and whether flow is present in the lines. Record and report the time and duration of any bypass. Continuously monitor the flow indicators on the two DEA regenerator lines that bypass the SRU and vent directly to the flare. Monitor whether device is operating properly and whether flow is present in the bypass line. Record and report the time and duration of any bypass.

Approval of this plan and inclusion in Section I of the facility's Title V Facility Permit is recommended, subject to the following conditions:

1. Operate at all times according to the procedures in your OMMP.
2. Maintain records to document conformance with the procedures in your OMMP.
3. Submit changes to this OMMP for approval by the Executive Officer [§63.1574(f)(1)].